

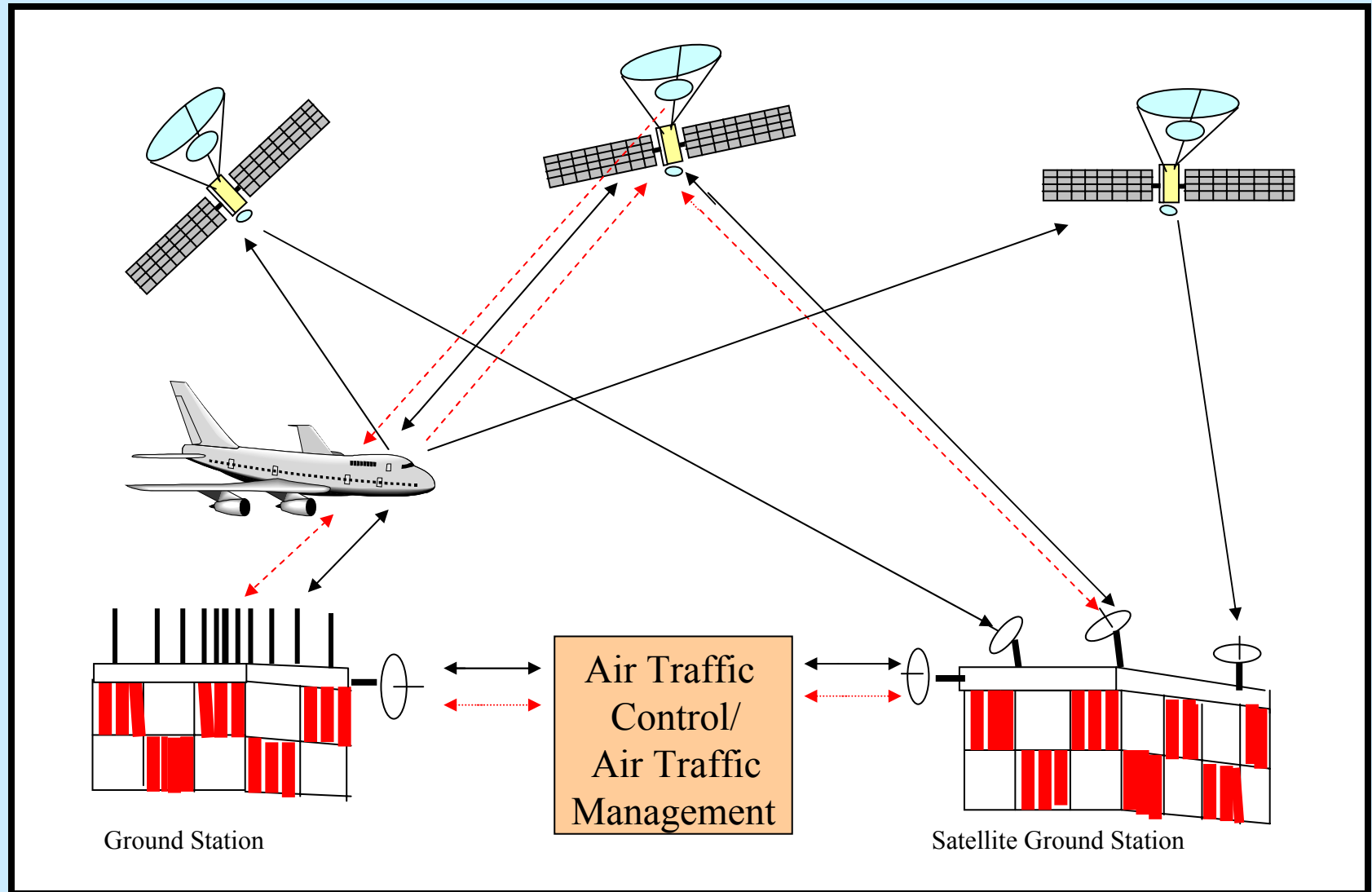
The Integrated Global Surveillance And Guidance System (IGSAGS)

NASA ACAST Meeting
August 24-25, 2004

IGSAGS Functions

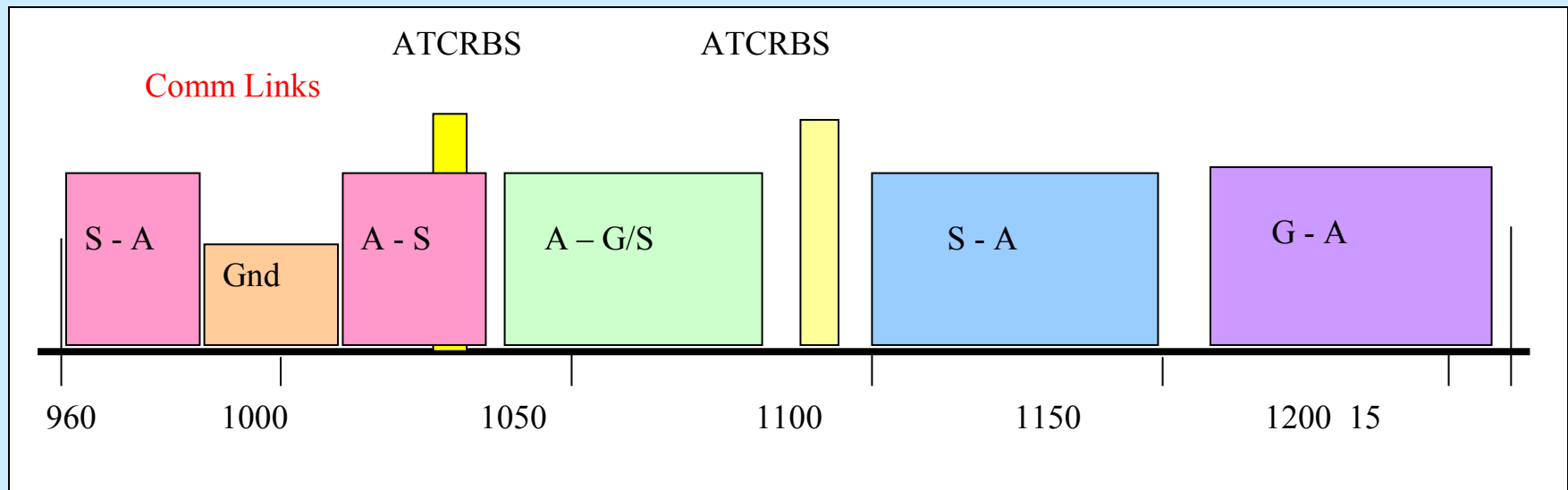
- Global ATC surveillance
- Global area navigation
- Global Category I landing Guidance
- Global collision warn./avoid. for *all* A/C types
- Global digital voice/data communications (1920 satellite & ground channels)
- Global high speed data link
- Redundant ground-based functions with Category III landing guidance to touchdown for *all* A/C and airport surface surveillance

IGSAGS Intercommunications



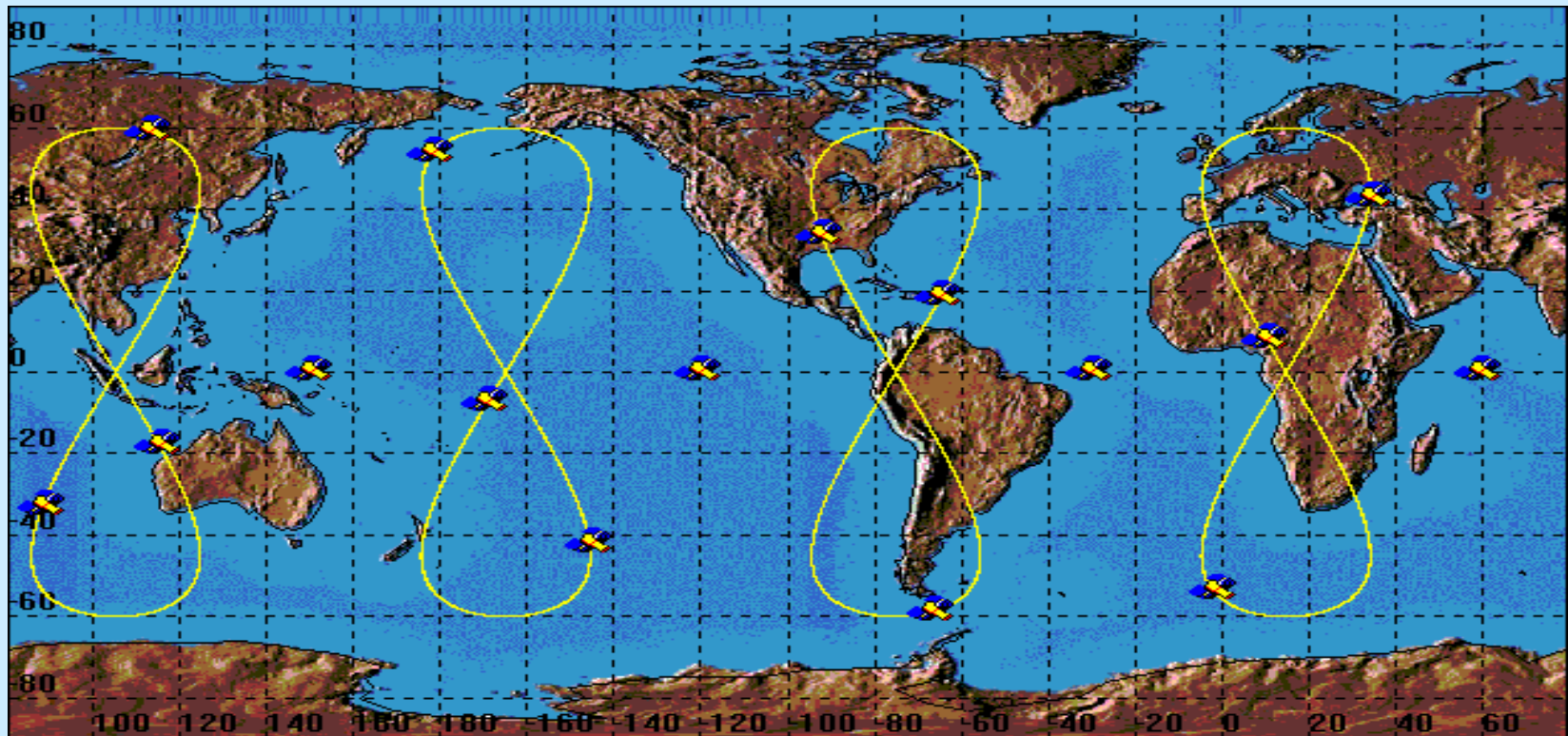
IGSAGS Spectrum & Aircraft Links in DME Band

- Uses TACAN/DME band with spread spectrum overlay, proved practical with JTIDS. Spread spectrum provides facility identification.
- Each aircraft/satellite/ground link 50 MHz wide except communications bands. Provides all CNS functions.

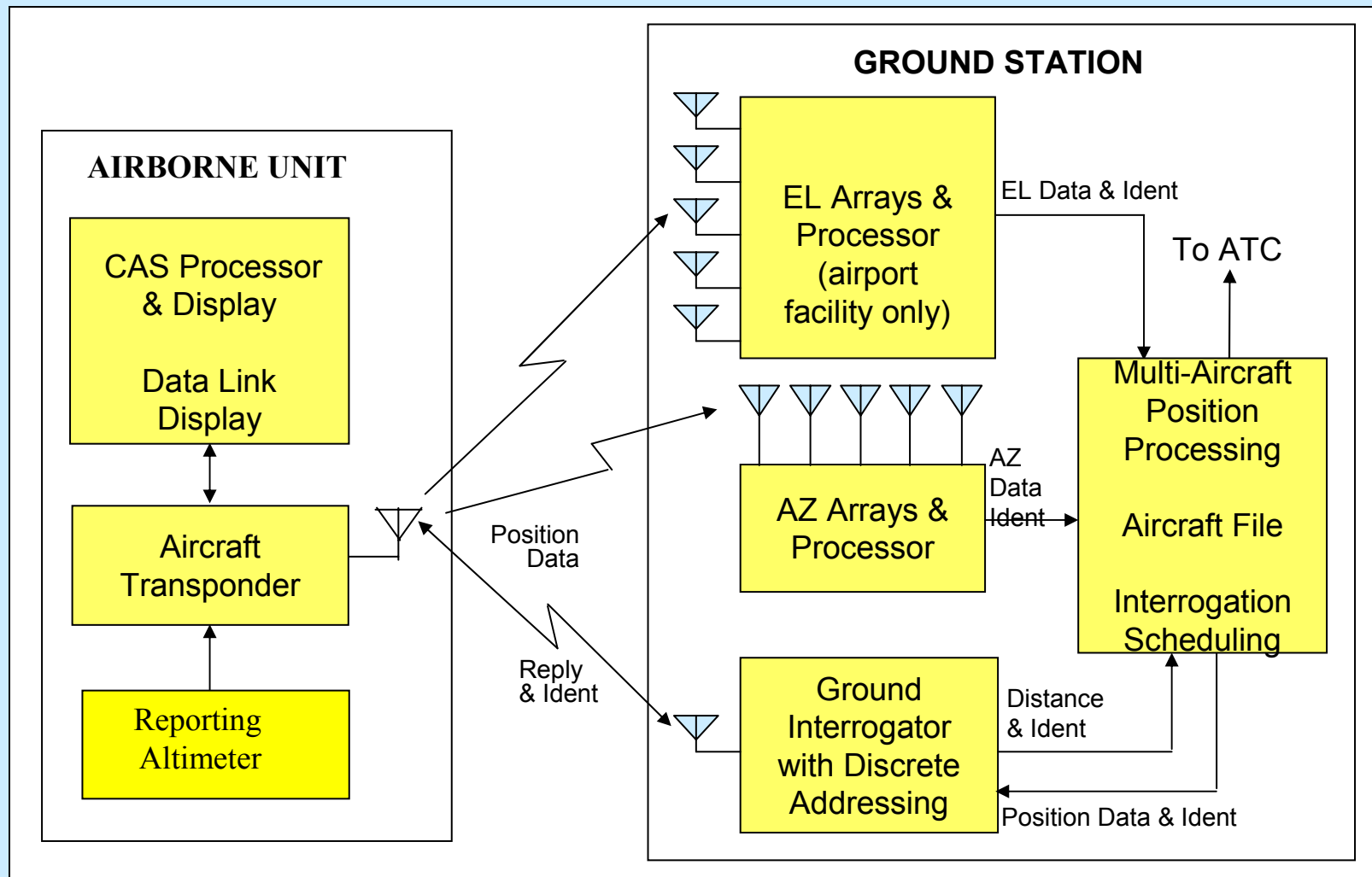


IGSAGS Satellite Subsystem

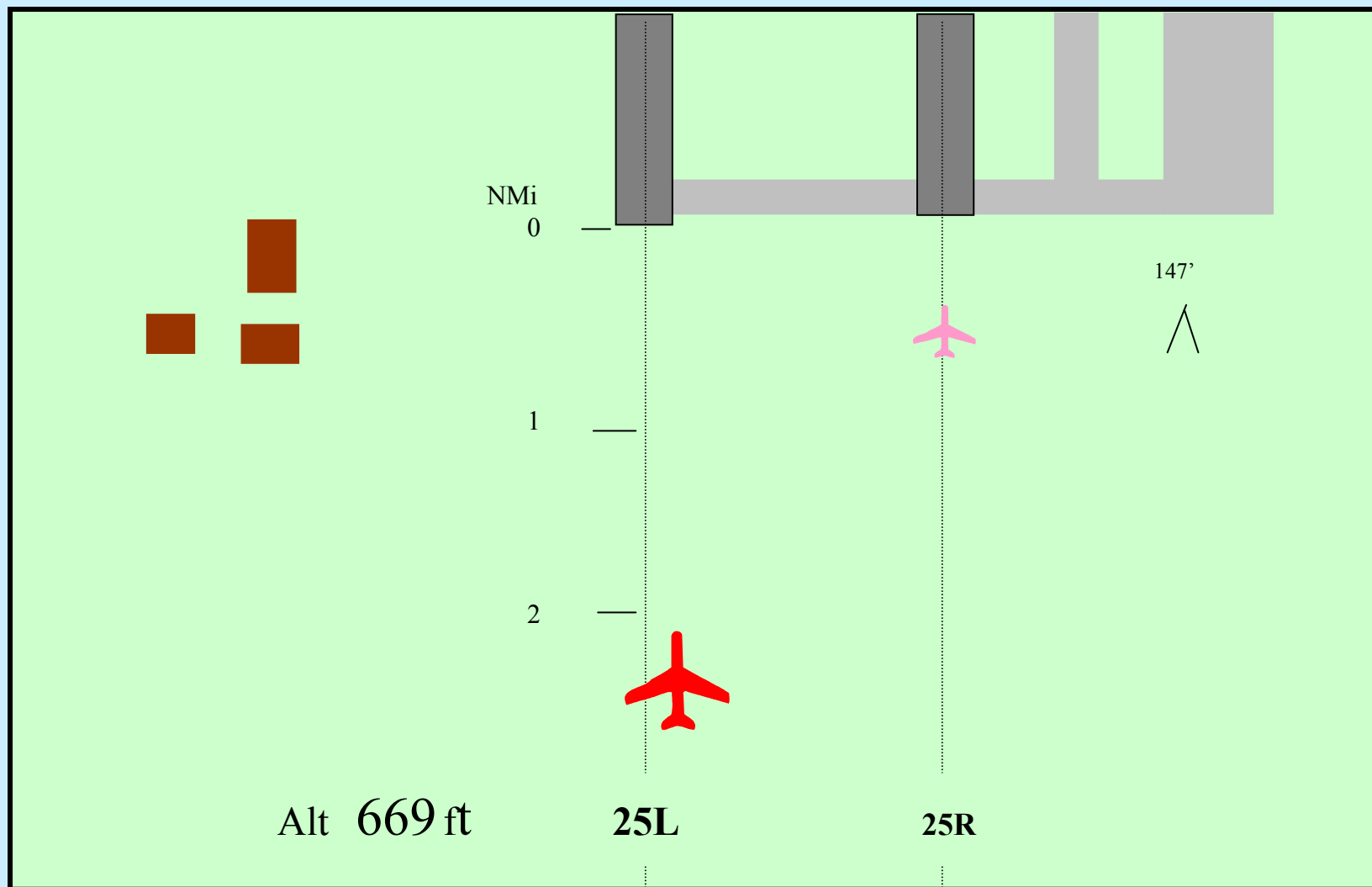
- 16 satellite constellation
 - 4 geostationary, 4 60° geo-polar orbits each with 3 satellites
- Ground facilities for communications with satellites (3 in US)



Airborne & Terminal Area Block Diagram



IGSAGS Approach Display



Cockpit Display of Airport Runways and Taxiways

